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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/833,367	04/12/2001	Shimen K. Claxton	12-1147	3126
23400	7590	08/02/2006	EXAMINER	
POSZ LAW GROUP, PLC 12040 SOUTH LAKES DRIVE SUITE 101 RESTON, VA 20191				MEHRA, INDER P
			ART UNIT	PAPER NUMBER
			2617	

DATE MAILED: 08/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/833,367	CLAXTON ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Inder P. Mehra	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 16 March 2006.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 2-7,11-17 and 20-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 2-7,11-17 and 20-23 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 12 April 2001 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____ .  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/15/05</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____ .                                  |

## **DETAILED ACTION**

1. This is in response to amendment dated 3/16/06. Based on this amendment, claims 2-7, 11-17 and 20-23 are pending. Out of pending claims 2-7, 11-17 and 20-23, claims 2, 11 and 20 have been amended.
2. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
4. Claims 2, 6-7, 11, 17 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Eizenhofer** (US Patent No. 4,763,322), hereinafter, Eizenhofer, in view of **Robbins** (US Patent No. 5,293,633), hereinafter, Robbins.

For claims 2, 11, 17 and 20-21, Eizenhofer discloses a time multiplexed multiple carrier transmitter, (refer to fig. 3, col. 7 lines 17-27): comprising:

  - a first data encoder (2 in fig. 3) for producing first transmit data, (refer to col. 7 lines 16-17);
  - a second data encoder different from the first data encoder for producing second transmit data (3 in fig. 3, refer to col. 7 lines 16-17);
5. For claims 2, 11, 17 and 20-21, Eizenhofer discloses a time multiplexed multiple carrier transmitter, (refer to fig. 3, col. 7 lines 17-27): comprising:

- a digital multiplexer coupled to the first and the second data encoder (TDM Multiplexer, (fig. 3, col. 7 lines 24-29);
- a power amplifier, (12 in fig. 3, col. 7 lines 60-61);
- a transmit frequency upconverter coupled between the transmit signal output and the power amplifier, (refer to “output of multiplexer is multiplied with code words and mixed with oscillator---further mixer oscillator as frequency synthesizer with in the frequency rage of digital radio transmission system”, col. 7 lines 34-54);
- a multiplexer control circuit (control circuit 13 in fig. 3) coupled to the digital multiplexer (3 in fig. 3) through a multiplexer control input ---select between the first and second data encoders (col. 7 line 65 through col. 8 line 3);
- and according to a predetermined transmit schedule (providing time slots of different duration --- permitting mobile stations to be assigned to time slots”, col. 3 lines 5-9).
- wherein the predetermined transmit schedule is configured to selects the first data encoder more frequently than the second data encoder in order to control a predetermined target power delivered to receiver, **as recited by claim 2, 11, and 20** (Dynamic allocation means that a user is allotted as many time slots as he needs for transmission, col. 2 lines 42-44, further, “time slots have different time duration to be optimized by users with different bandwidth requirements, col. 3 lines 12-15).
- further comprising applying at least three channels of transmit data to the digital multiplexer and wherein digitally multiplexing comprises digitally multiplexing between the first, second and at least third transmit data under control of the

multiplexer control signal to generate a transmit signal, **as recited by claims 17, and 21, refer to fig. 3, col. 7 lines 24-28).**

Eizenhofer discloses intermediate frequency as output of oscillator 6 and modulated with code word, refer to col. 7 lines 40-45. Eizenhofer does not disclose explicitly the following limitation, which is disclosed by Robbins, as follows:

\* “a control circuit coupled to --- **an intermediate frequency control input**, --- to assert an intermediate frequency selection signal, --- to generate the transmit signal output at one of preselected transmit frequencies”, **as recited by claim 20**, refer to col. 7 lines 24-33,

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the capability of “control circuit introducing an intermediate frequency control input, to assert an intermediate frequency selection signal.” This capability can be combined at the controller (computer) of Robbins. The suggestion/motivation to do so would have been to avoid interference of audio signals, which use conventional analog sound circuits.

For claims 6-7, Eizenhofer discloses the subject matter including the following limitations:

- a third/ fourth data encoder, **as recited by claims 6 and 7**, for producing third transmit data (digital channels and number of portables, col. 2 lines 10-15), the third data encoder coupled to the digital multiplexer, and the multiplexer control signal selecting one of the first, second and third data encoders according to the predetermined transmit schedule, (refer to fig. 3 , col. 7 lines 26-28).

6. Claims 3-4 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eizenhofer, in view Robbins, as applied to claims 2 and 11 above, and further in view of **Judd et al** (US Patent No. 6,701,137), hereinafter, Judd.

For claims 3-4, 12-14, Eizenhofer in view of Robbins disclose all the limitations of subject matter of these claims except the following limitations, which are disclosed by Judd, as follows:

- “a digital to analog converter coupled between the digital multiplexer and the transmit frequency upconverter”, **as recited by claim 4**; “a digital to analog converter coupled between the transmit frequency upconverter and the power amplifier, **as recited by claim 3**, refer to 24, 28, 26 and 30 in fig. 1, col. 3 lines 1-10;
- wherein frequency upconverting comprises digital frequency upconversion to provide an upconverted signal,**as recited by claim 12**, refer to 30 in fig. 1.
- “digital to analog converting the transmit signal”, **as recited by claims 13-14**, refer to 28 in fig. 1.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the capability of “a digital to analog converter coupled between the digital multiplexer and the transmit frequency upconverter”, and “digital to analog converting the transmit signal”. The capability can be combined at the transmitter. The suggestion/motivation to do so would have been to perform frequency conversion for digitally adaptive systems.

7. Claims 5, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eizenhofer, in view Robbins, as applied to claims 2 and 11 above, and further in view of **Martone et al** (US Patent No. 6,603,806), hereinafter, Martone.

For claims 5, 15, and 16, Eizenhofer in view of Robbins disclose all the limitations of subject matter of these claims with the exception of the following limitations, which are disclosed by Martone, as follows:

- encoders includes a first intermediate frequency upconverter, refer to fig. 7, refer to col. 6 lines 46-53.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the capability of “a digital to analog converter coupled between the digital multiplexer and the transmit frequency upconverter”, and “digital to analog converting the transmit signal”. The capability can be combined at the transmitter. The suggestion/motivation to do so would have been to perform frequency conversion for digitally adaptive systems.

8. Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eizenhofer, in view Robbins, as applied to claims 2 and 11 above, and further in view of **Fujiki et al** (US Patent No. 6,847, 807), hereinafter, Fujiki.

For claims 22-23, Eizenhofer in view of Robbins disclose all the limitations of subject matter of these claims except the following limitations, which are disclosed by Fujiki., as follows:

- The time multiplexed multi-carrier signal selector of claim 20, further comprising a first intermediate frequency upconverter coupled to the first transmit data input and

the intermediate frequency control output, as recited by claims 22-23, refer to col. 5 lines 1-8, and figs. 1-2.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the capability of the time multiplexed multi-carrier signal selector of claim 20, further comprising a first intermediate frequency upconverter coupled to the first transmit data input and the intermediate frequency control output. The capability can be combined at the transmitter. The suggestion/motivation to do so would have been to perform frequency conversion for digitally adaptive systems.

***Response to Arguments***

9. Applicant's arguments with respect to claims 2-7, 11-17 and 20-23 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Inder P. Mehra whose telephone number is 571-272-3170. The examiner can normally be reached on Monday through Friday from 8AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2617

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Inder Pal Mehra*  
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